

U.S. DOE Knolls Atomic Power Laboratory

EPA ID Number: NY6890008992

Other (Former) Names of Site

None

Site Description

The USDOE Knolls Atomic Power Laboratory is located at 2401 River Road in the Town of Niskayuna, Schenectady County, New York, on the south bank of the Mohawk River. Construction of the site began in 1948 and laboratory operations began in 1949. The site consists of 170 acres of land, extending 4,200 feet along the river. Most of the property is located on a bluff about 100 feet high with a steep slope dropping off to a low bench about 15 to 20 feet above the river.

The principal function of the site is research and development in the design and operation of naval nuclear propulsion engines. As a result of these activities, various types of hazardous and mixed wastes are generated. A Mixed waste @ contains both hazardous waste and radioactive material. The majority of hazardous and mixed wastes are generated from laboratory operations and facility renovation activities.

Container storage areas are used for hazardous and mixed waste prior to shipment off-site to licensed/permitted treatment, storage or disposal facilities. The Knolls site may also accept mixed waste to consolidate wastes for shipment to out-of-state treatment facilities. There is no disposal of hazardous waste or mixed waste at the facility.

NYS Department of Environmental Conservation completed a Resource Conservation and Recovery Act (RCRA) Facility Assessment preliminary review and a visual site inspection of this facility, and determined that investigations will be required at 31 of the identified solid waste management units (SWMUs) and four areas of concern (AOCs). Conditions have been included in the NYS hazardous waste permit to require Knolls to submit investigation work plans for all SWMUs and AOCs that require further corrective action activities.

Site Responsibility and Legal Instrument

The State is responsible for corrective action through issuance of a NYS Part 373 operating permit for storage of hazardous and mixed waste.

Permit Status

The NYS Part 373 operating permit, issued July 20, 1998, allows for hazardous and mixed waste storage in four areas. These areas are:

- the Building Q1 complex with an authorized capacity of 6,600 gallons;
- two prefabricated modular additions located in the Building E11 truck bay with an authorized capacity of 1,320 gallons;
- four floor vaults (numbered 2, 3, 5 & 6) with an authorized capacity of 3,520 gallons each; and

- Building M10 with an authorized capacity of 36,800 gallons.

The types of containers used for storage of hazardous waste include bottles, cans, jugs, drums and large volume boxes.

Potential Threats and Contaminants

The four potential exposure pathways for this site are surface water, groundwater, sediment and soil. Some potential receptors in the area are:

- Mohawk River users (via recreation and drinking water),
- terrestrial and aquatic biota, and
- on and off-site employees and residents in the area.

Current effluent discharges to the Mohawk River are regulated under a permit issued by NYS Department of Environmental Conservation.

Knolls is also monitoring on-site stream and Mohawk River water quality. This surface water monitoring shows that there have been only occasional water quality exceedences for two non-hazardous compounds, both of which are attributable to natural conditions. Knolls' groundwater monitoring network consists of 56 wells, of which 33 are currently monitored for chemical constituents.

Within the monitoring well system there have been elevated levels of phenols, in an isolated area, and volatile organic compounds in three areas of the site. Sediment sampling has been done in the on-site streams, which flow toward the Mohawk River. Detectable concentrations of contaminants were found in all sediments, but no appreciable difference between upstream and downstream concentrations are clear, with one exception (manganese, a non-hazardous metal) at Mid-line Stream.

Localized soil contamination, which can be traced to specific sources, has been discovered. Soil contamination includes polychlorinated biphenyls in two areas (one area of which has been remediated), heavy metals in two areas (one area of which has been remediated), and volatile organic compounds in a fifth area.

Cleanup Approach and Progress

Based upon available data, no imminent danger to human health or the environment has been identified. However, implementation of corrective action programs is required to control certain potential risks. The goal of these programs is to seek complete characterizations of, and final solutions for, environmental contamination that has been, or may yet be, identified. The on-going routine monitoring programs undertaken by Knolls, in addition to the corrective action programs, are designed to alert Knolls and the NYS Department of Environmental Conservation of any health or environmental risks.

Knolls has been required by the NYS Department of Environmental Conservation to supplement previously conducted geophysical/soil gas surveys to determine the horizontal and vertical extent of suspected waste deposition in certain areas of the site, as well as supplementing existing groundwater monitoring data. These surveys will be used as a basis for site visits to determine whether contaminant releases to the soils within the boundaries of the suspected waste deposition areas have occurred.

In other areas, site visits have been or will be used to either discover whether contaminant releases have occurred, or to confirm the removal of contaminated materials from soils. In

the remaining areas, Knolls will be required to conduct a Resource Conservation and Recovery Act (RCRA) Facility Investigation to determine the extent and concentration of already confirmed contamination, or to perform phased evaluations of in-ground portions (industrial sewers) of systems as part of a required work plan.

Site Repository

Copies of supporting technical documents and correspondence cited in this site fact sheet are available for public review at:

NYSDEC Region 4
1150 North Westcott Road
Schenectady, New York 12306-2014
Telephone (518) 357-2353

The Town of Niskayuna Public Library
2400 Nott Street East
Niskayuna, New York 12309
Telephone (518) 386-2249